

## REMARKS

Examiner Sarkar is thanked for his thorough examination of the Subject Patent Application. The objections to Claims 7 and 19, based on informalities have been corrected based on Examiner's kind suggestions.


Referring to the rejections of all Claims (1- 25) under 35 USC 102(e), as being anticipated by Leitz et al (US Pat No. 2004/0087117 A1), arguments for allowance of these claims are next addressed. Applicant has clearly shown in independent Claim 1 and 15, a graded semiconductor alloy layer comprised with a germanium component in which the content of the germanium component in the graded semiconductor alloy layer **is greatest at the semiconductor alloy layer - underlying substrate interface, with germanium content decreasing during growth of the graded semiconductor alloy layer thus resulting in the lowest germanium content at the top surface of the graded semiconductor alloy layer.** This unique graded layer results in the largest mismatch at the semiconductor substrate - graded semiconductor alloy interface which will ultimately allow a non-graded overlying silicon - germanium layer to be grown in a relaxed form, while burying the unwanted threading dislocations near the graded semiconductor alloy layer - semiconductor substrate interface. In direct contrast the Leitz et al prior art presents a graded semiconductor alloy layer in which the **lowest germanium content is at the semiconductor alloy layer - semiconductor substrate while the highest germanium content** is located at the top surface of this layer. This unwanted grading profile leaves threading dislocations near a subsequently grown relaxed, non-graded

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semiconductor alloy. The germanium doping configuration in the Leitz prior art will present greater risk of unwanted dislocations in any overlying semiconductor layer.

It is strongly believed that Applicant's process for the graded semiconductor alloy layer, uniquely different from the Leitz et al prior art obtained via a different growth procedure, clearly shows the needed process differentiation from prior art and therefore reconsideration of the rejection of all claims under 35 USC 102 is requested.

It is requested that should Examiner Sarkar not find that the Claims are now Allowable that he call the undersigned attorney at 845-452-5863, to overcome any problems preventing allowance.

Respectfully submitted,  
  
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